Summer Wildlife Inquiry
2003

By Jessica Kitchell

Abstract

Surveys of nine species of summer wildlife made by rural residents in the five DNR administrative regions of the state of Wisconsin were compiled for 2003. Of the nine species, sightings have increased or remained stable for five species. On a statewide basis for the year of 2003, average sightings of coyote, turkey, bobwhite quail, pheasant, and deer have increased. Moreover, sightings of wild turkeys and coyotes have increased consistently on a statewide basis during the long-term survey period of 1988-2003. Four species, fox, skunk, ruffed grouse, and gray partridge, each declined statewide but the decline was not significant. In addition to statewide data, sightings are also tabulated for each of the five DNR administrative regions. Changes in reporting rates for the nine species were tested with χ^2 analysis. Analysis of variance was used to test for differences among years and regions for two species.

Methods

Originally, names and addresses for this survey were chosen from a master list compiled in the early 1980's with nonrespondents from previous years being systematically culled from the list. The size of the list, however, had become alarmingly small after the 1998 mailing. Consequently, an effort to increase the size of the mailing list was initiated in 1999. Landowners of 40 or more acres were selected from a mailing list from the University of Wisconsin Extension rural landowner list. Names and addresses were randomly drawn in proportion to ownership in each county. Active names from the previous master list were added to this new list, and nonrespondents are annually culled.

Questionnaires were mailed in mid-August 2003 to 5,385 rural residents in the 5 DNR administrative regions in the state. Species reported include fox, coyote, skunk, wild turkey, bobwhite quail, ruffed grouse, gray partridge, ring-necked pheasant, and white-tailed deer. Species data were summarized using the Statistical Analysis System (SAS). Changes in annual (1988-2003) reporting rates of fox, coyote, skunk, wild turkey, bobwhite quail, ruffed grouse, and gray partridge were tested with χ^2 analysis. Analysis of variance was used to test for differences among years and regions in estimated numbers of pheasants and deer on rural properties.

Results

Responses were received from 1,685 rural Wisconsin landowners in 2003, representing a 31% return rate. Overall, during the past 16 years, 22,151 questionnaires have been returned. During 2003, the distribution of responses varied among DNR administrative regions accordingly:

Northern 17%	West Central 27%	Northeast 26%
South Central 19%	and Southeast 11%	

Fox

Statewide, the percentage of respondents reporting sightings of fox decreased, and has been decreasing since 2001. (Fig. 1). The percentage of respondents reporting fox sightings varied significantly during 1988-2003 (χ^2 = 292.40, 15 df, P < 0.0001). Generally, reported sighting rates increased from 1988 to 1991, declined during 1991-1997, increased from 1998-2000 and declined from 2001-2003. The statewide average number of litters reported for farms with foxes has remained relatively constant since 1988, averaging 1.4 fox litters per farm. The average number of litters per farm in 2003 averaged 1.4 as well.

Coyote

The percentage of respondents reporting coyote sightings changed significantly during 1988-2003 (χ^2 = 966.78, 15 df, P < 0.001). On a statewide basis, reported coyote sightings increased annually through 1988-92, remained stable through 1993-94, and increased again through 1995-2003 (Fig 2). During 1988-1999, coyote sightings increased 3-to-4 fold in all but the Northern region. In the Northern region, sightings peaked in 1990, gradually declined from 1991-1995, remained fairly stable from 1996-1998, gradually increased from 1999-2000, declined by 4% in 2001, and increased from 2002-2003.

Skunk

Statewide, reported skunk sightings during the summer months were generally stable during 1988-95, declined from 1996 -1997, increased in 1998, declined by 10% from 1999-2001, increased 3% from 2001-2002, and decreased by 7% in 2003. (Fig. 3, χ^2 = 171.28, 15 df, P < 0.0001). In 2003, skunk observations declined statewide as well as in all five of the DNR administrative regions.

Wild Turkey

Statewide, the percentage of respondents reporting sightings of wild turkey on their property increased fairly steadily between 1988 and 2003 (Fig. 4, χ^2 = 3332.81, 15 df, P < 0.0001). Between 1996 and 2001, wild turkey sightings increased in all regions. In 2002 wild turkey sightings increased in the Northern, Northeastern, and South Central regions, and declined in the West Central and Southeastern regions. In 2003, wild turkey sightings again increased in all regions. Wild turkey sightings have been highest in the West Central and South Central regions since 1988. Between 1988 and 2003 reported sightings of wild turkeys have increased at least 20-fold in the Northeast and Southeast regions. Turkey sightings in the Northern region have shown vast increase since 1996, after being generally stable from 1988-95.

Bobwhite Quail

The statewide percentage of farmers that saw or heard bobwhite quail on their property varied significantly during the past 16 years (Fig. 5, χ^2 = 108.21 15 df, P < 0.0001).
Bobwhite quail are reported more frequently in the West Central and South Central regions than in the other regions; however, observations have declined 23% in the West Central region, and 36% in the South Central region during the past 16 years.

Ruffed Grouse

Statewide sightings of ruffed grouse by rural residents declined steadily from 1988 to 1993, remained relatively stable from 1994-97, increased in 1998 and 1999, remained stable in 2000, and decreased from 2001 to 2003 (Fig. 6, $\chi^2 = 115.99$, 15 df, $P < 0.0001$). Grouse sightings decreased in the Northern, West Central, and Northeast regions; and slightly increased in the South Central and Southeast regions this year.

Gray Partridge

Statewide, reported sightings of gray partridge on rural farms have declined fairly steadily from 23% in 1988 to 10% in 2003 (Fig. 7, $\chi^2 = 289.67$, 15 df, $P < 0.0001$). The decline in gray partridge sightings has been greatest in the Southeast and South Central region where reported sightings have declined 77% and 74%, respectively, during the past 16 years. Gray partridge are reported more frequently in the Northeast and South Central regions than in the other regions; however, sightings have declined 74% in the South Central region during the past 16 years.

Ring-necked Pheasant

Landowners were asked to estimate the total number of ring-necked pheasants (adults and young) on their property (Fig. 8). Differences among regional trends in estimated pheasant numbers were significant ($F = 94.46$; 4, 17,867 df; $P = < 0.0001$) with the highest in the South Central region and the lowest in the Northern region. Pheasant sightings also were different among years ($F = 9.05$; 15, 17,867 df; $P < 0.0001$), with pheasant sightings increasing the last 5 years.

White-tailed Deer

Statewide, the percent of rural landowners reporting sightings of deer on their properties has varied significantly between 1988 and 2003 (Fig. 9, $\chi^2 = 34.7$, 15 df, $P =< 0.0027$). The average number of deer observed per property was calculated from those respondents who indicated having deer on their land (Fig. 10). The number of deer observed varied significantly among years ($F = 13.34$; 15, 16,138 df; $P < 0.0001$) and among regions ($F = 34.91$; 4, 16,138 df; $P < 0.0001$). The number of sightings in the past five years, 1999-2003, is significantly higher than the sightings in the previous five, 1994-1998. Deer sightings were higher in the Northern Region than in the other 4 regions. The interaction of year and region effects was significant ($F = 1.65$; 60, 16,138 df; $P = 0.0012$). Mean deer sightings in 2003 increased 8% on a statewide basis.

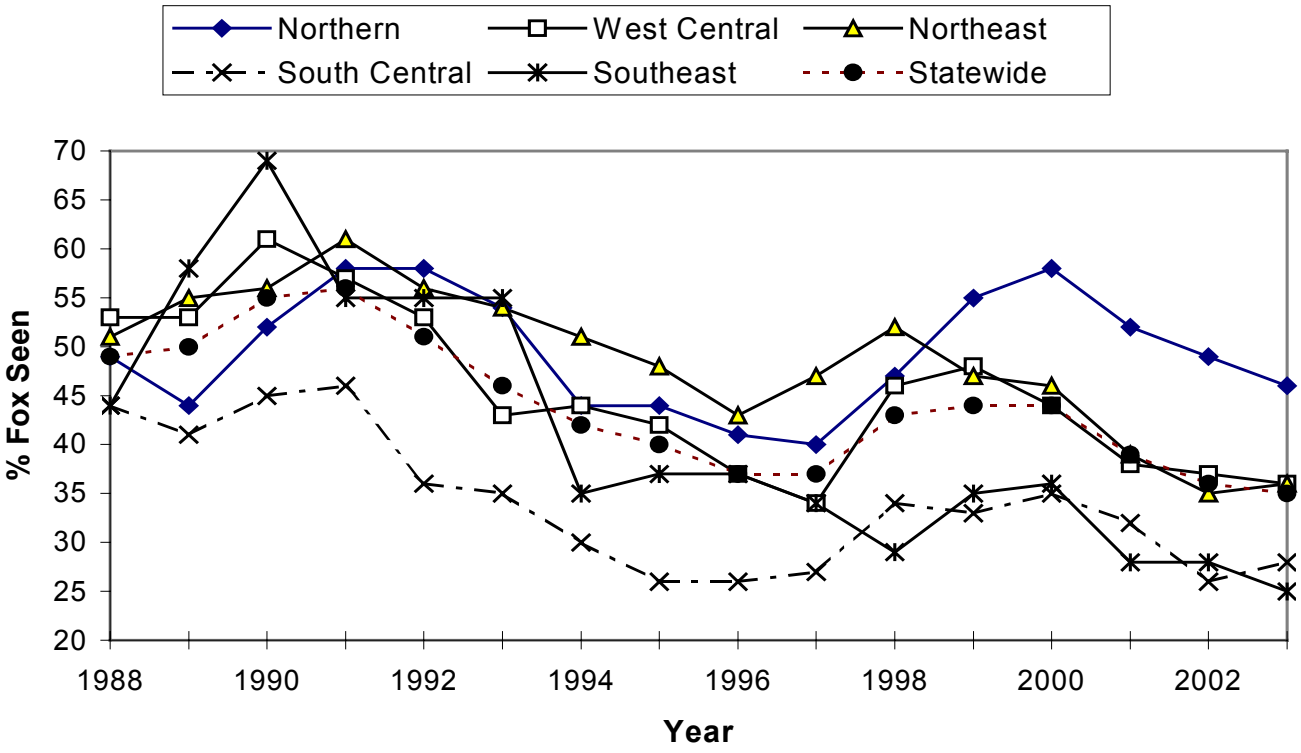


Figure 1. *Percentage of respondents seeing fox on their property since May 1.*

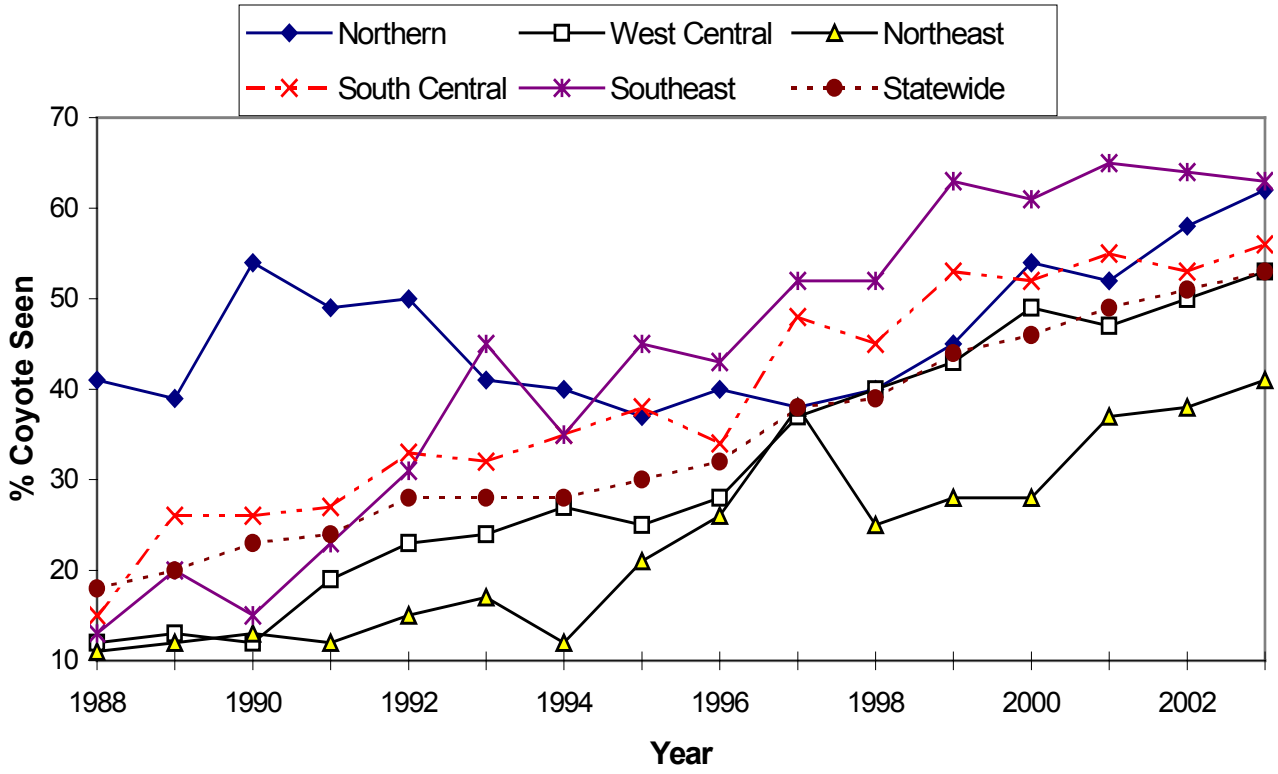


Figure 2. *Percentage of respondents seeing coyotes on their property during the summer months.*

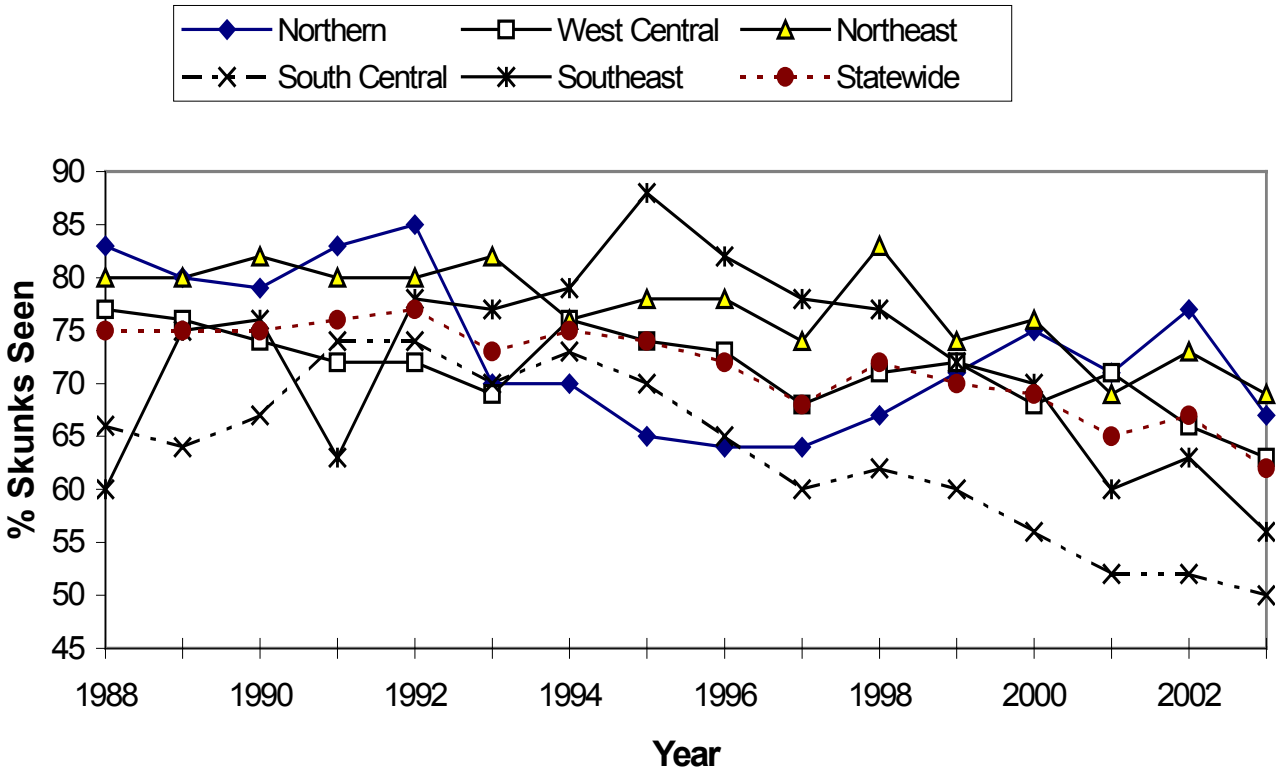


Figure 3. *Percentage of respondents seeing skunks on their property during the year.*

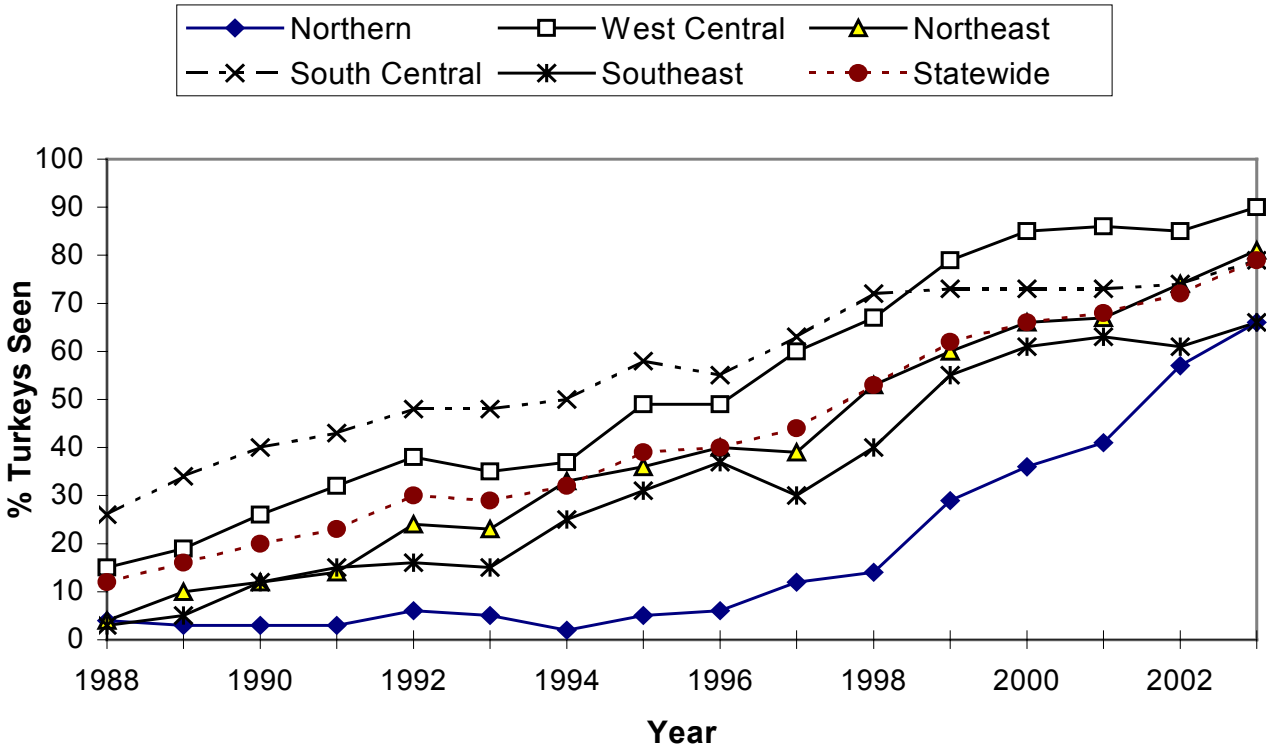


Figure 4. *Percentage of respondents seeing turkey on their property since January 1.*

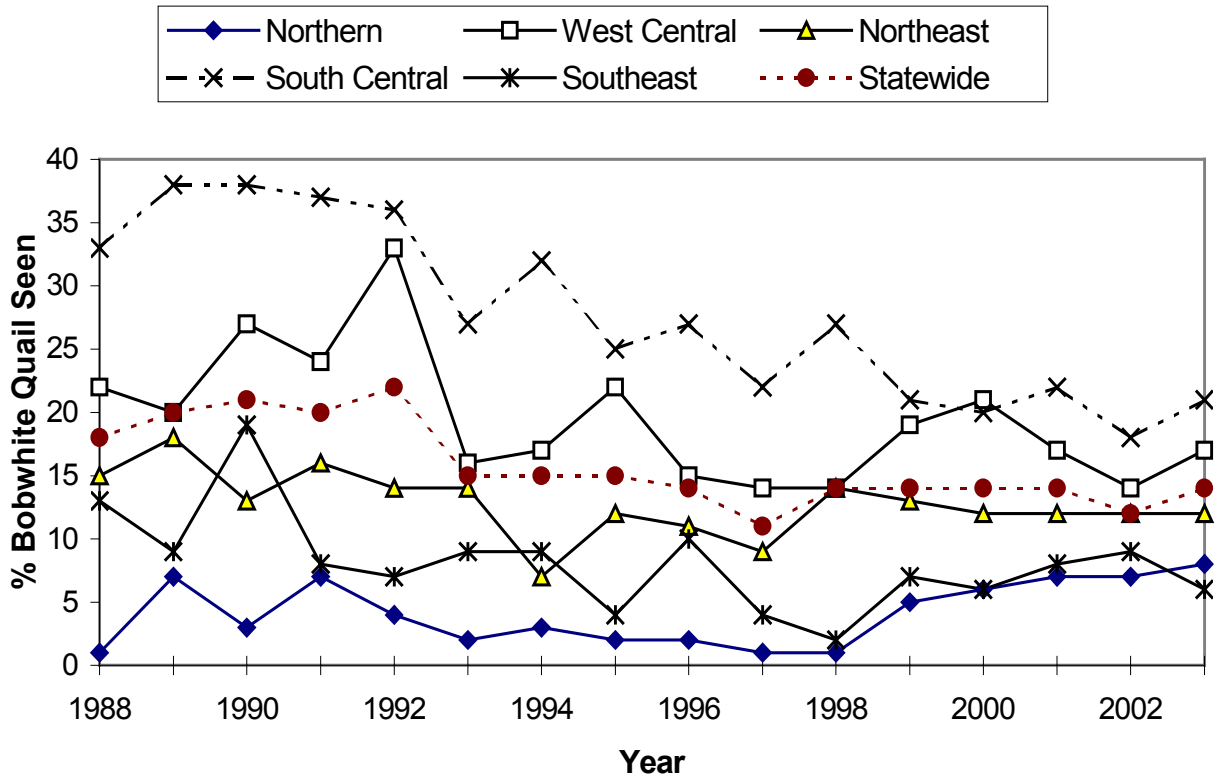
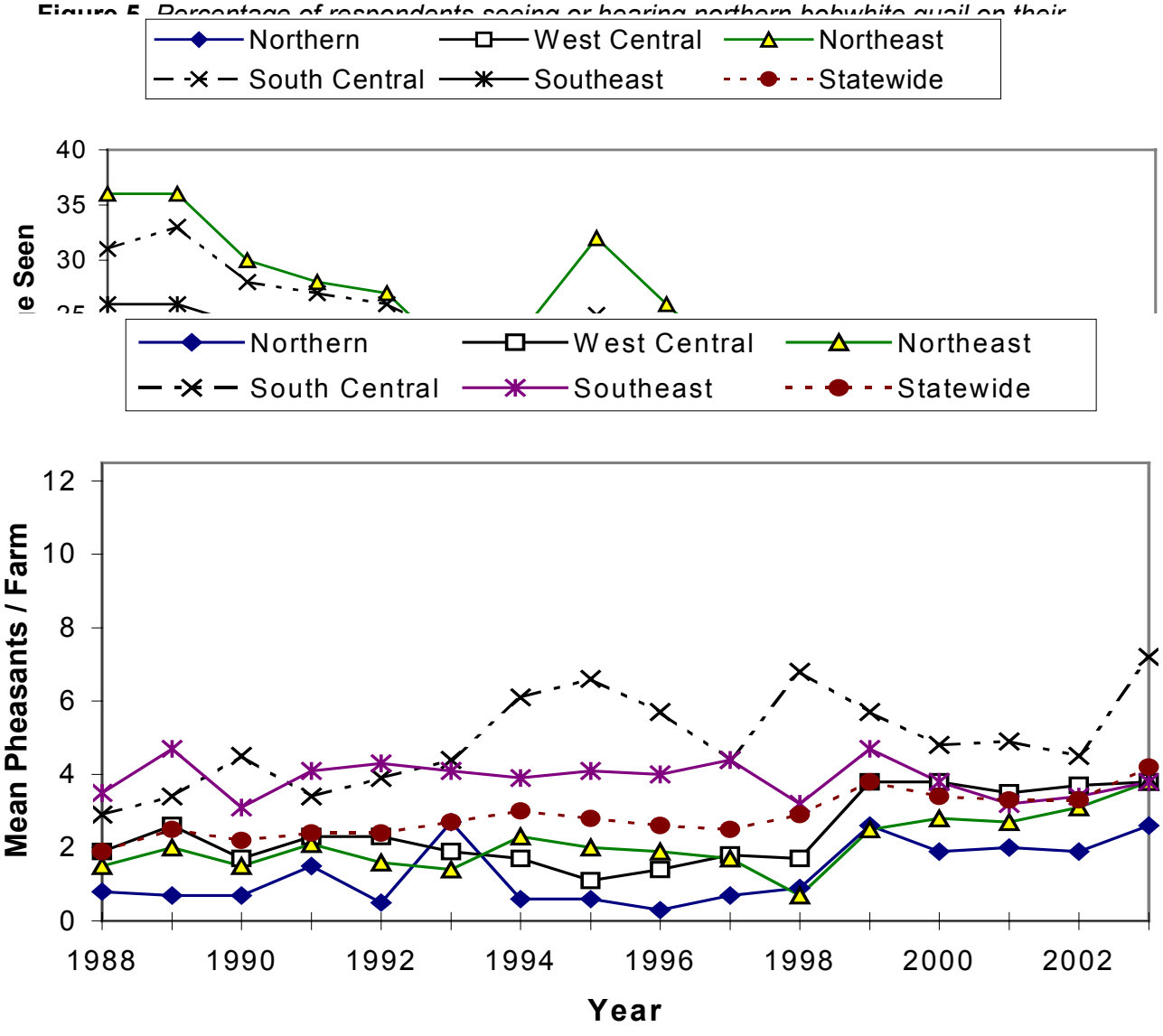


Figure 5. *Percentage of respondents seeing or hearing northern bobwhite quail on their*



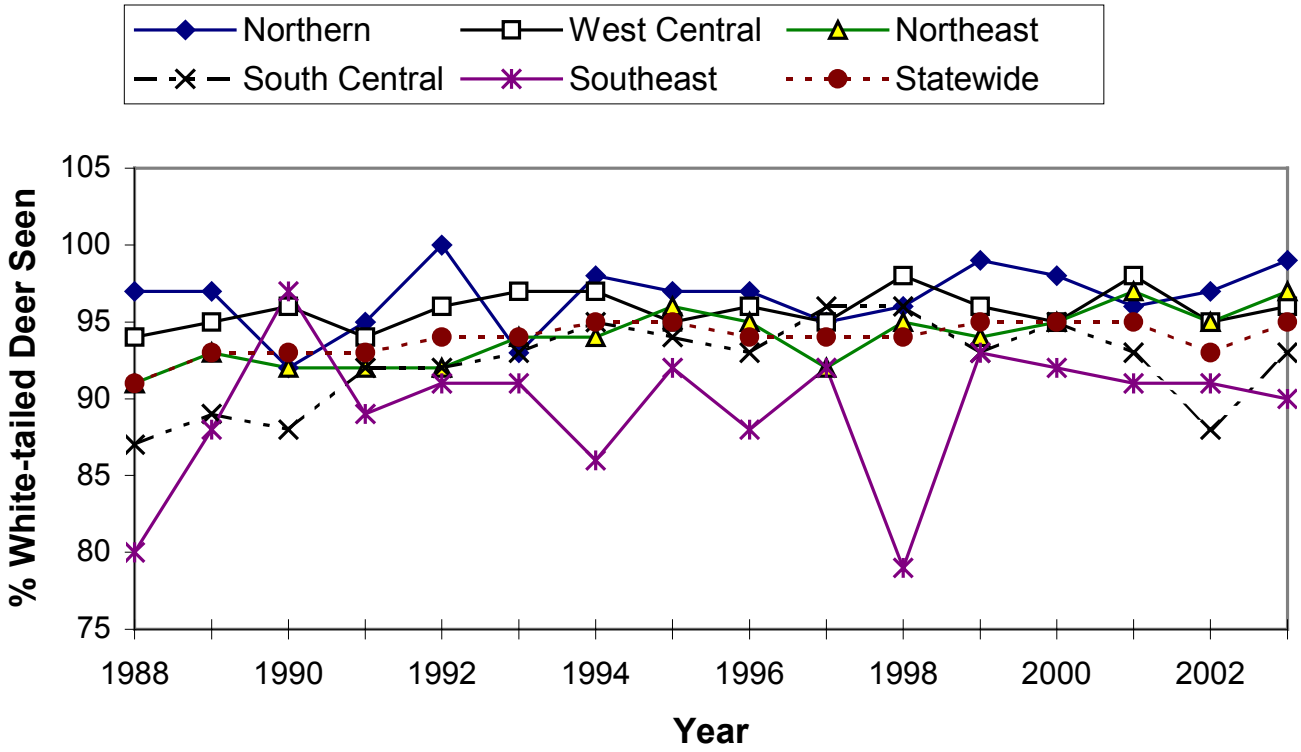


Figure 8. *Mean number of ring-necked pheasants (adults and young) estimated to be present on farm, includes farms with no pheasants.*

Figure 9. *Percentage of respondents seeing white-tailed deer on their property during the summer.*

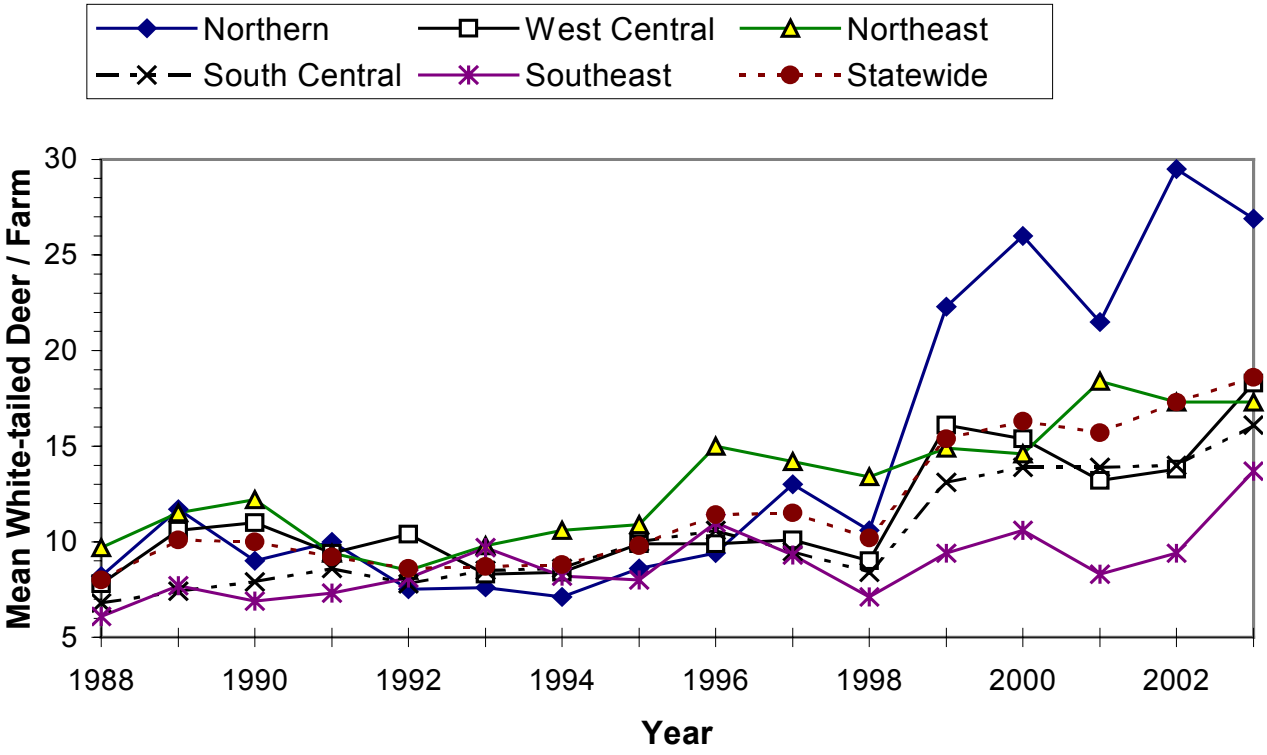


Figure 10. *Average number of white-tailed deer seen by respondents on their property during the summer.*